

TRAINING EDUCATORS TO IMPLEMENT FUNCTIONAL ANALYSES

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The present study examined the use of an instructional workshop for training educators to conduct functional analyses. Results indicated that 2 of 3 participants met the accuracy criterion following group training, whereas 1 participant required direct verbal feedback. During generalization probes, one participant accurately conducted sessions with a student in her classroom.

DESCRIPTORS: functional analysis, staff training

Functional analysis methodology has been criticized on the grounds that the precision necessary to conduct such an analysis requires extensive training and clinical expertise. However, Iwata et al. (2000) effectively trained undergraduate students enrolled in an applied behavior analysis laboratory course to implement three functional analysis conditions (attention, demand, and play). Training involved reading materials, watching a videotaped simulation, passing a written test, and receiving feedback. Moore et al. (2002) trained 3 teachers to implement the attention and demand conditions of a functional analysis using similar procedures. Both of these studies relied on one-on-one instruction to train correct implementation of functional analyses. The purpose of the current investigation was to replicate and extend these studies by examining the effectiveness of a workshop-training format.

METHOD

Participants

Participants were attendees of a workshop who (a) had no previous experience with

functional analysis implementation, (b) had not taken a course in behavior analysis, and (c) were willing to spend additional time beyond the workshop requirements. Participant 1 was a teacher with dual certification in elementary education and special education who taught in a self-contained classroom. Participant 2 was a school psychologist who worked in an elementary school. Participant 3 was a general education teacher who taught sixth grade at a middle school. Participants 1 and 3 had bachelor's degrees, and Participant 2 had a master's degree.

Response Measurement and Interobserver Agreement

Data were collected on the delivery of prescribed antecedents and consequences during each condition. During attention sessions, data were collected on the delivery of brief verbal statements contingent on an occurrence of the target behavior. All other attention from the teacher to the student actor was scored as incorrect. During the demand sessions, data were collected on the delivery of instructions, prompts, and praise, as well as on the removal of the task demand for 30 s following an occurrence of the target behavior. Dependent measures for the toy-play sessions were the provision of continuous access to toys and leisure items and interaction with the student on a fixed-time 30-s sched-

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ule. If the participant failed to implement an antecedent or consequence as prescribed by the session's procedures, the response was scored as incorrect. Scripts used during simulated analyses contained nearly equivalent occurrences of target and nontarget behaviors. Percentage correct for each session was calculated by dividing the number of correct responses by the number of correct responses plus incorrect responses (including omissions) and multiplying by 100%. Interobserver agreement was assessed by having a second observer independently and simultaneously record data during 30% of the sessions. Agreement scores were calculated by dividing session time into consecutive 10-s intervals and comparing observers' records. The smaller number of responses was divided by the larger number of responses in each interval; these fractions were summed, divided by the number of intervals in the session, and multiplied by 100%, yielding a mean agreement of 98.7%.

Experimental Sequence

A multiple baseline across participants design was used to assess the effects of training on correct implementation of the attention, demand, and toy-play conditions.

Baseline. Simulated analyses, in which the participants acted as therapists conducting attention, demand, and toy-play sessions, were conducted in a conference room. Sessions were 5 min in length, and an actor assumed the role of a client who engaged in body hitting. Scripts specifying the times at which behaviors should occur (target and nontarget behaviors) were used by actors (scripts may be obtained from the first author). Participants were given the method section of the Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994) study and told to review it prior to conducting these sessions.

Workshop. After baseline, the participants attended a 3-hr workshop with approxi-

mately 35 other attendees. The workshop consisted of providing participants with a description and purpose of each functional analysis condition (descriptions available from first author), videotaped demonstration of each condition, and role playing. Each attendee alternated between playing the role of a client and the role of a therapist for all conditions. After role playing, presenters answered questions pertaining to the conditions. Following the workshop, simulated analyses identical to those in baseline were conducted.

Feedback. The feedback phase was introduced if a participant failed to conduct a simulated assessment condition with more than 90% fidelity. During this condition one of the authors provided verbal feedback specific to the participant's performance (e.g., "Make sure you physically guide the individual to complete the task if he or she has not responded to the model and has not engaged in the target behavior") immediately after the session was conducted. After feedback had been given, simulated sessions were again conducted.

Generalization probes. Participant 1 conducted functional analysis sessions in her classroom 12 weeks after the workshop with a student who engaged in moderate rates of head hitting. Sessions (5 min long) were conducted by the participant and were scored with respect to correct implementation. Neither instructions nor feedback was provided during these probes.

RESULTS AND DISCUSSION

During the simulated assessments, no participant scored above 50% correct (Figure 1). Following participation in the workshop, Participant 1 conducted an attention session with 100% accuracy and both the toy-play and demand conditions with 96% accuracy; Participant 2 achieved 100% correct implementation of the attention, toy-play, and de-

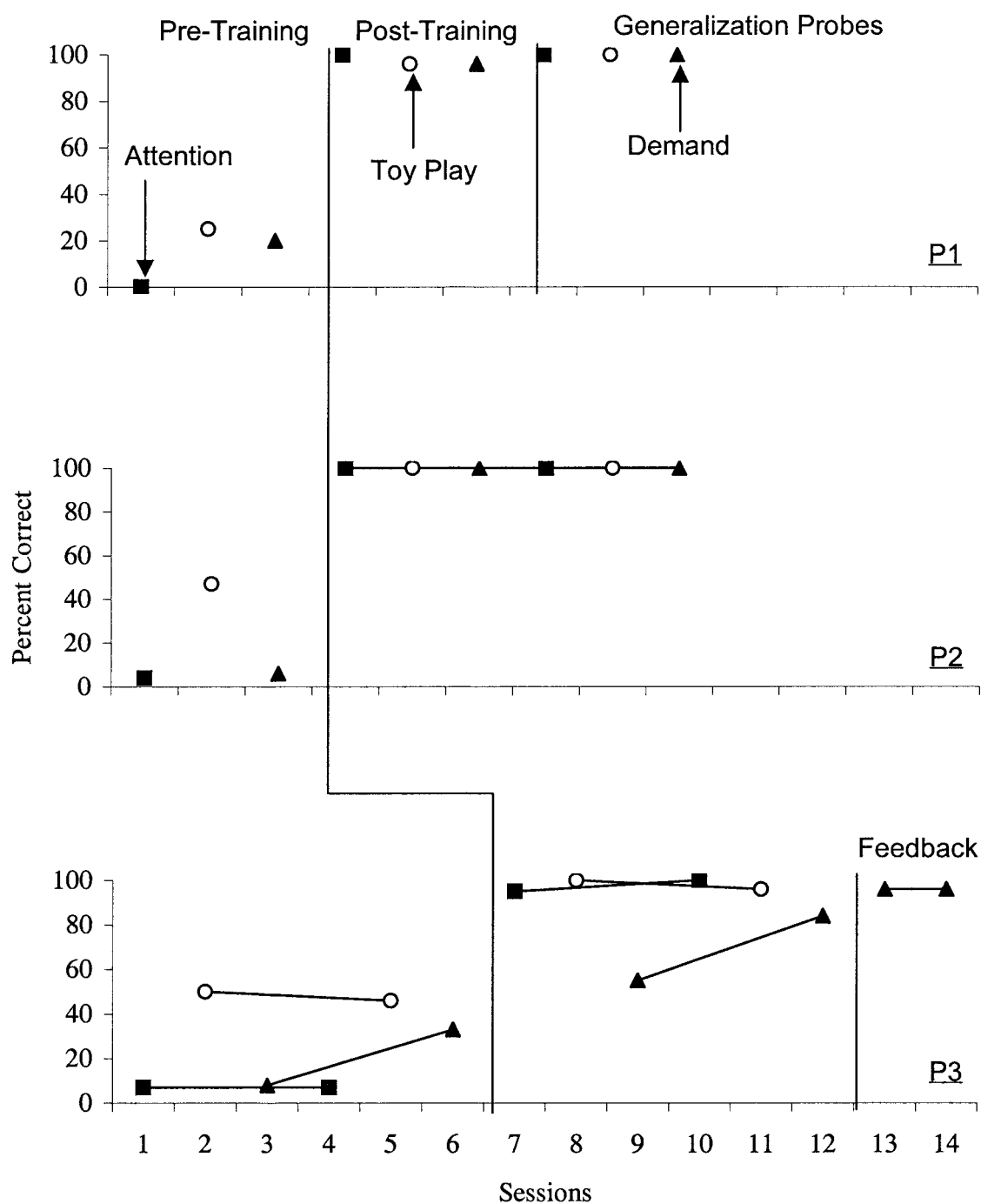


Figure 1. Percentage of correct implementation for Participant 1 (top panel), Participant 2 (middle panel), and Participant 3 (bottom panel).

mand sessions; and Participant 3 met the percentage correct criterion for the attention and toy-play sessions but failed to meet the

criterion for the demand sessions ($M = 69.5\%$). After Participant 3 was provided with specific feedback related to his errors

during demand sessions, he conducted two demand sessions and scored 96% correct. Participant 1 conducted the attention, toy-play, and demand sessions with 100% accuracy during the generalization probes.

Results of this study show that 2 teachers and a school psychologist demonstrated a high degree of accuracy in the implementation of functional analyses. Participants 1 and 2 met the established accuracy criteria after participating in a workshop delivered in a group format, whereas Participant 3 required additional feedback to meet the accuracy criterion for demand sessions. Moreover, all participants showed a high degree of proficiency in conducting functional analysis sessions following less than 3 hr of training. These outcomes support the conclusions reported by Iwata *et al.* (2000) and by Moore *et al.* (2002), which demonstrate that individuals can acquire the skills necessary to conduct functional analyses with minimal training. In addition, it was demonstrated that these skills can be maintained and implemented by school personnel without continued performance feedback. These results contradict suggestions that the repertoire necessary to conduct a functional analysis can only be obtained by extensive training.

A limitation of this study is the absence of generalization probes for 2 participants. These data are necessary to make claims concerning generalization across simulated and clinical situations. Another limitation was that the participants were not randomly se-

lected. Thus, the participants may represent a highly motivated group that may not be representative of teachers and school psychologists in general. Moreover, this study examined the effects of training some, but clearly not all, of the component skills involved in functional analysis methodology. For example, actual implementation of functional analyses in clinical environments requires additional skills such as data analysis and interpretation and the ability to develop interventions corresponding to functional analysis outcomes. Future research is needed to address these concerns and to extend current research findings to alternative training procedures as well as to other populations (e.g., residential care staff).

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